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Identification of Parameters Associated with a Diagnostic Delay in Axial Spondyloarthritis: Results from the European Map of Axial Spondyloarthritis (EMAS)

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on behalf of EMAS Working Group

Background:

Early diagnosis of Axial Spondyloarthritis (axSpA) is crucial for timely access to specialist care and effective treatment.

Objectives:

To assess the current diagnostic delay in axSpA and identify the parameters associated with increased diagnostic delay in a European sample.

Methods:

Data from unselected patients participating in the European Map of Axial Spondyloarthritis (EMAS) study through an online survey (2017- 2018) across 13 countries were analysed. Mean differences in diagnostic delay were analysed using Mann-Whitney and Kruskal-Wallis tests, among sociodemographic and disease-related factors. A multivariate linear regression analysis was carried out to identify the relative weight of the associated parameters in determining diagnostic delay.

Results:

2,846 patients participated in EMAS. Mean age was 43.9 years, 61.3% were female, 48.1% had a university degree, and 53.9% were employed. Of the 2846 participants, 2652 provided information for calculating diagnostic delay. Mean age at symptom onset was 26.6 ± 11.1, mean age at diagnosis was 33.7 ± 11.5, and mean diagnostic delay was 7.4 ± 8.4 (Fig. 1). The following variables were associated with longer diagnostic delay in the bivariate analysis: older age, female gender, being diagnosed by a rheumatologist (Table 1). In the multivariate regression analysis younger age at symptom onset, number of HCPs seen before were associated with diagnostic delay (Table 2).

Conclusion:

In this large sample of axSpA patients from 13 different European countries, the average diagnostic delay was more than seven years. The fact that one of the most strongly associated parameters to diagnostic delay was number of HCPs seen before diagnosis suggests the need for urgent action to reduce incorrect referrals to shorten the patient journey to diagnosis across Europe.

References:

Figure 1. Average years of diagnostic delay across EMAS countries (N: 2,652)

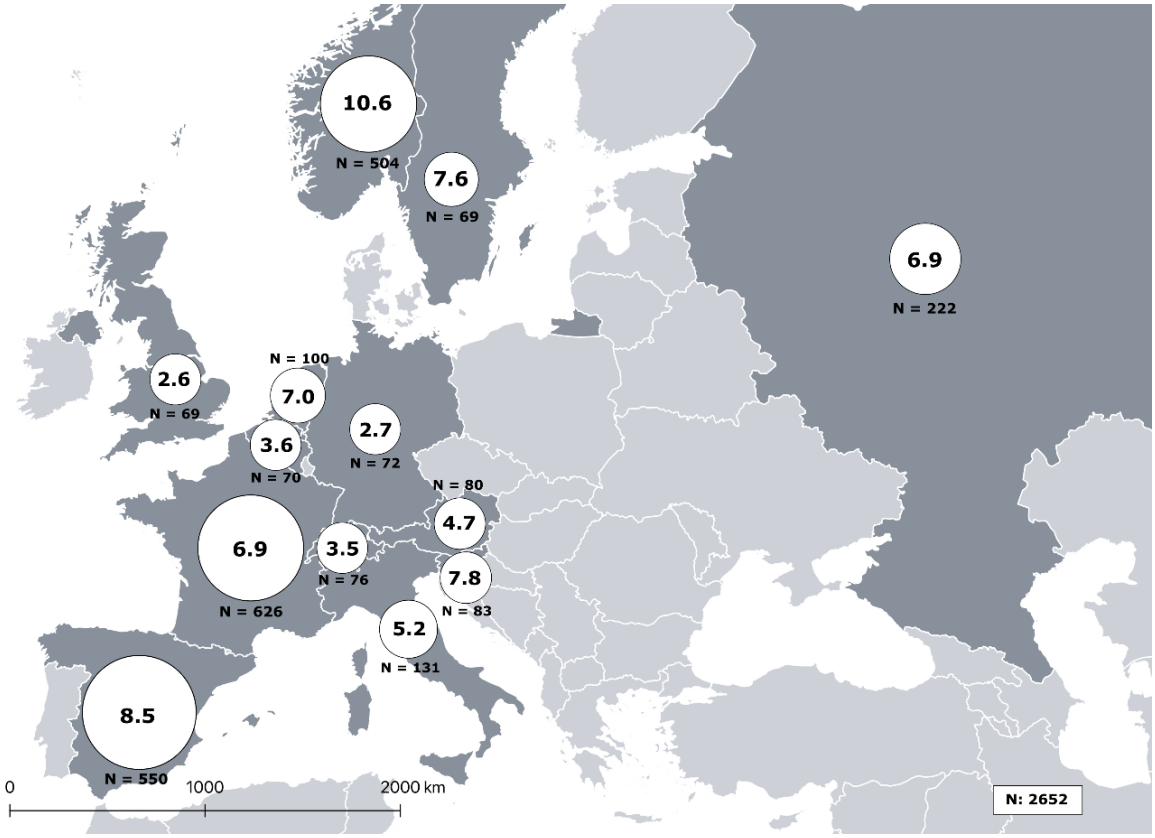

Table 1. Associations between sociodemographic and disease-related variables and diagnostic delay (N: 2,652)

Variable		**Diagnostic Delay (years) Mean ± SD**	**P-value**
Age categories	18-34	4.4 ± 5.5	**<0.001**
	35-51	7.9 ± 8.2	
	52-68	9.5 ± 10.2	
	>68	7.3 ± 9.7	
Gender	Male	6.1 ± 7.4	**<0.001**
	Female	8.2 ± 8.9	
Education level	No school completed	8.0 ± 10.7	0.397
	Primary school	7.6 ± 8.9	
	High school	7.6 ± 8.4	
	University	7.3 ± 8.3	

Occupation	Manual worker	6.7 ± 8.3	0.163
	Non-manual worker	7.3 ± 8.4	
Diagnosed by rheumatologist	Yes	7.9 ± 8.7	**<0.001**
	No	5.7 ± 7.3	
HLA-B27	Positive	8.3 ± 8.3	0.775
	Negative	8.7 ± 9.0	
Uveitis (ever)	Yes	8.0 ± 8.3	0.098
	No	7.6 ± 8.4	
IBD (ever)	Yes	7.7 ± 8.7	0.944
	No	7.5 ± 8.5	

Table 2. Regression analysis between sociodemographic and clinical variables in relation to diagnostic delay

Variable	Univariable linear regression		Multivariable stepwise linear regression	
	B	**95% CI**	**B**	**95% CI**
Age at symptoms onset	**-0.289**	**-0.316, -0.262**	**-0.321**	**-0.390, -0.253**
Female gender	**2.099**	**1.442, 2.755**	NA	NA
Employed, Manual worker	-0.604	-1.953, 0.746	NA	NA
Educational status, University	-0.343	-0.986, 0.299	NA	NA
Diagnosed by rheumatologist, Yes	**2.117**	**1.321, 2.913**	NA	NA
Number of HCPs seen before diagnosis	**1.723**	**1.486, 1.960**	**1.258**	**0.739, 1.776**
HLA-B27, Positive	-0.471	-1.347, 0.404	NA	NA
Uveitis (ever), Yes	0.463	-0.392, 1.319	NA	NA
IBD (ever), Yes	0.123	-0.971, 1.217	NA	NA

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